UNITED STATES DEPARTMENT OF AGRICULTURE Radio Service OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Friday, October 2, 1931.

NOT FOR PUBLICATION.

Speaking Time: 10 Minutes. All Regions.

NEW DEVELOPMENTS IN THE UNITED STATES BUREAU OF ANIMAL INDUSTRY.

OPENING ANNOUNCEMENT: Ladies and gentlemen, Your Washington Farm Reporter will use the next 10 minutes to tell us about some of the many NEW DEVELOPMENTS IN THE UNITED STATES BUREAU OF ANIMAL INDUSTRY. All right, Mr. Reporter, the microphone is now yours.

--oooOooo--

Thank you, Mr. Announcer. And now livestock listeners, since the microphone is mine for the next ten minutes I'll use it to tell you about some of the new livestock developments that have come from the research laboratories of the United States Bureau of Animal Industry during the past year.

The majority of you livestock listeners know that Dr. John R. Mohler is the efficient chief of that important division of the United States Department of Agriculture known as the Bureau of Animal Industry.

Well, as I was passing Dr. Mohler's office the other day in the new agricultural building located about half way between the Washington Monument and the Smithsonian Institution building that now shelters Lindbergh's famous "Spirit of St. Louis," I ran into Mr. D.S. Burch one of Dr. Mohler's assistants carrying a handfull of important looking papers.

"Well, come on," I said, "what have you in those papers?"

"Reports of progress in animal industry that we are now preparing for publication," he replied.

"Good," I exclaimed as I thought of you livestock listeners, "tell me about all of 'em."

"That," said Mr. Burch, "would take too long, but if you'll step inside I'll be glad to run over a few of the more important developments that the bureau has uncovered during the past year."

"That's fine," I remarked as I followed him into his office.

"Now," said Mr. Burch as we dropped into chairs around a big table, "there's been a lot of talk about the results obtained from the pasture breed-

ing of beef cattle as compared to breeding on open range or in forest reserves. An animal husbandry project on this subject made in cooperation with State experiment stations showed that larger calf crops are obtained from pasture breeding. For example, the number of calves alive at weaning time was from 7 to 11 per cent greater in the case of pasture-bred lots than from breedings on open range or forest reserves."

Another project on lamb production showed that it pays to give ewes extra feed at breeding time. This heavy feeding of ewes at breeding time is called flushing. Good pasture was found to be the best feed for flushing purposes. Ewes flushed or fed on extra good pasture produced 164 lambs per hundred ewes, those receiving a ration of grain produced 152 lambs per 100 ewes, while those receiving NO extra feed at breeding time produced only 143 lambs per 100 ewes. In other words, it pays to give ewes a little extra feed at breeding time, and good pasturage is the best feed for that purpose.

While I'm on the subject of feeding livestock I want to tell you about still another animal husbandry project on feeding market hogs. It is common practice among hog feeders to feed market hogs all they will eat in order to bring them to desired market weights as quickly as possible. The bureau's hog specialists have been carrying on some investigations to find out if this is the most profitable practice. Their investigations have shown that limited feeding rather than heavy feeding resulted in more economical pork production, even though hogs fed the limited rations made less rapid gains and required longer feeding periods to bring them to the desired weights. It is a well-known fact that the taste of the American consumer is gradually turning toward leaner pork, especially bacon, and in that connection it is interesting to know that the experimental pigs on limited feed produced somewhat leaner carcasses. In other words, it may or it may not be the best policy to follow the old, established practice of feeding market hogs all they will eat.

When Mr. Burch told me that the limited feeding of market hogs produced somewhat leaner carcasses, I immediately thought of some of the tought beef steaks that I have eaten and promptly asked him what kind of feeding would produce the kind of beef steak that you can cut with the side of a fork.

"That," he replied, "is not altogether a feeding problem. Meat investigations conducted by three department bureaus cooperatively with 22 experiment stations continue to throw new light on the factors that make meat tender, palatable, and otherwise desirable from the consumer's standpoint. It is believed that breeding has a great deal to do with the quality of meat produced, and that it will soon be possible to breed animals that will produce the kind of meat that the consumer likes to talk about in complimentary terms."

I asked Mr. Burch if the bureau had uncovered any new information during the past year that would be of interest to poultry raisers.

"Yes," he replied--- --" on hatchability of eggs."

"Our men found that a large production of eggs during the breeding season is apparently conducive to good hatchability. That, as many of you poultrymen know, is contrary to general opinion. It has long been the general belief that the eggs from heavily producing hens, during the breeding season, turned out poor hatches. By putting the substance of this investigation in a nut shell the bureau's poultry specialists have found that heavy producing hens often produce a large percentage of hatchable eggs, and that hatchability is an inherited

quality.

The Bureau of Animal Industry made new strides last year in its effort to drive bovine tuberculosis from the cattle in the United States. When this work was undertaken 13 years ago, more than 4 per cent of our cattle had bovine tuberculosis according to the results of extensive testing. The 1931 figures show an infection of around one and one-half per cent. More than 13,000,000 cattle were tested for tuberculosis during 1930, and more than 200,000 reactors removed from the herds of the country.

The bureau specialists in this work point out that now is a good time to conduct bovine-tuberculosis eradication work because of the large numbers of dairy cattle that can be obtained at moderate cost for replacement purposes, and because the removal of reactors from herds should be less costly to owners than during the times of high prices for cattle and their products. In that connection Mr. Burch said that the average combined State and Federal indemnity paid for the year 1930 was approximately $65 plus a salvage value of around $25. or a total of $90 for the average reactor.

Another new job that the Bureau of Animal Industry has undertaken is the eradication of avian tuberculosis from the poultry flocks of the country. Twelve Corn Belt and Mid-Western States are now cooperating with the bureau in an active campaign to wipe out this troublesome and costly poultry pest. I say costly because farmers in some states have received 2 cents a pound less for their poultry owing to the presence of the disease in a large number of fowls marketed in that section.

Before I turn the microphone back to our announcer I want to tell you that scientists in the Bureau of Animal Industry not only find out new things for livestock producers, but they protect the industry by keeping out undesirable diseases and troubles. For instance, no serious foreign livestock disease gained entrance to the United States during the fiscal year ended June 30, 1931 though more than 116,000 animals and vast quantities of livestock products were imported into this country.

If you want to keep up with the <u>new</u> things that the Federal Department of Agriculture is continuously uncovering and offering to the farmers of this country, ask your Congressman or your Senator to place your name on their mailing list to receive a copy of the new Department of Agriculture Yearbook which comes out every year about the first of April, and if you want information on special livestock subjects, write the United States Bureau of Animal Industry in Washington, D.C.

CLOSING ANNOUNCEMENT: This, ladies and gentlemen, closes the Washington Farm Reporter program broadcast from Station_________ in cooperation with the United States Department of Agriculture.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF
INFORMATION

YOUR FARM REPORTER AT WASHINGTON Release, Monday October 5, 1931.

NOT FOR PUBLICATION

Speaking time: 10 Minutes.

Crops and Soils Interview

ANNOUNCEMENT: Your farm reporter at Washington will now make his report. He talks to the specialists of the United States Department of Agriculture. Then he passes the word along to us. Sometimes, we get some helpful suggestions that way------What is it this time, Mr. Reporter?------

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Here's a suggestion. Maybe some of us can help ourselves get out of the woods, by getting into the woods, and getting out the wood.

Be that as it may, there will be some old familiar music in the woods this winter. The sound of the ax will ring out on the frosty air more than it has for years past. That is especially likely in some sections where the drought burned the profits out of other cash crops.

The old farm woods "ain't what she used to be", but still she is "an ever-present help in the time of trouble," for many farmers.

Remember during the World War -- the cord-wood we did cut! Coal was needed 'over there'. In the emergency, we fell back on the Farm Woods and soon had the wood-pile mounting high in old-time style; to say nothing of all the ties and timbers, posts and poles we produced.

Mr. W. R. Mattoon, extension forester of the United States Forest Service, suggests that we may be able to get a lot of help out of our woods this winter. In many cases, we can harvest a considerable cash crop from our timber. At least, we may be able to cut down expenses by making the farm woods supply more of the family fuel.

Before going any further, however, I am going to break down and confess. I not only talked with Mr. Mattoon, but he gave me two of the little pamphlets he has written on this subject. One has the enticing title of "Profits from Farm Woods; Money-Making Examples from Southern Farmers." That is United States Department of Agriculture's Miscellaneous Publication No. 87.

That is just a collection of actual instances of how farmers have cashed in on the cuttings from their farm woods. A lot of ideas can be harvested from reading how some of the other fellows have done it.

The other publication is shorter, pithier, and of more general application in all parts of the country. That one is called "The Farm Woods; A Savings Bank Paying Interest." It is United States Department of Agriculture Leaflet No. 29.

Mr. Mattoon is frankly a man with an ax to grind. But the ax, is our ax. He is trying to sharpen it up, so we can do keener, more intelligent cutting in the Farm Woods.

By the light of the sparks from his grind-stone, it appears we can have our woods and cut it, too, if we use our heads as well as our hands in the cutting. In fact, in many cases, it may actually improve the farm woods to cut out some of the timber for farm use and even as a cash crop.

Timber is a crop --- grown from the soil. That is the main idea these foresters are always trying to get across to us. In cutting, Mr. Mattoon suggests that we cut our timber with an idea to keeping the woodland producing the best quality timber at the fastest rate.

Don't cut everything that you can possibly sell. Cut a tree here and a tree there and always leave a good stand of trees as a basis for continuous production.

Some timber tracts it may pay to cut for saw logs, piling and poles, by taking out only the bigger or mature trees, and leaving the "little ones" to grow and make the next crop. I don't mean by that to leave your little ones to grow the next crop, but leave the little trees. Too many people in this country already have left to their descendants the job of looking out after the future wood supply. They have mined timber, instead of handling it like a crop.

In the case of other tracts of timberland, you may be able to improve them by cutting or thinning another way. As Mr. Mattoon says, the smaller, over-crowded, crippled, crooked, and large-limbed or "horny" trees should be cut out. Also the trees of the less valuable kinds. That will leave you the straight, thrifty, larger trees for developing high-grade, high-priced timber.

Your County Agricultural Agent, or your State Forester, or the Forest Service of the U. S. Department of Agriculture, can furnish you information about the best way to manage and cut your woods.

Mr. Mattoon warns that in selling your timber as a farm crop it should, generally speaking, consist of the rough timber products such as saw logs, and poles, and piling, hewed crossties, and cordwood. Lumber is not included for it is well for most farmers to keep out of the sawmill business. As a rule, the average farmer, and even some of us who may not admit we are average farmers, had better produce and cut timber in its rough form and not bother with manufacturing it.

We can grow our own timber and keep the cash we would otherwise have to pay out, at home. Mr. Mattoon points out that we can make more, if we use the lower grades of timber on the farm and sell the choicer grades. That is, within reason.

Farm timbers used in contact with the ground should be durable woods. For fence posts use only such woods, as the black locust, or red cedar, or white or post oaks, or chestnut, or red mulberry, or sassafras. Or if you use sap timbers such as soft maple, or basswood, or poplar, or gum, or sap pine, treat them with creosote.

Mr. Mattoon also suggests that we season our fuel wood well. Well seasoned wood makes more heat. And, as the house wife well knows from experience, it saves time and worry in the home.

As for the stuff you sell, Mr. Mattoon gave me some pointers on marketing it. He called them profitable pointers. He says cut or "harvest" your own timber crop. Woods work in good winter work. And always keep in mind, that the farm woods have many timber crops in it, and handle accordingly.

By harvesting our own timber we can sell our labor and that of our teams or trucks, just as we do in selling field crops. Of course, the first thing is to know what you want to sell. Get a reliable estimate of the amount and value of the timber you have for harvest. If need be, get experienced help in deciding what trees to cut and what to leave standing for future crops.

Get prices from as many sawmills and other wood-using plants as you can. And before selling, talk things over with neighbors who have sold timber. Benefit by their experience, if you can. As I said before, your county agent or your State Forestry department may be able to give you some good tips.

And when you sell, be sure you are selling to responsible buyers and use a written agreement. That is especially needed, if you let the buyer do the cutting.

And in splicing out your income with products from your woodlands, remember, as Mr. Mattoon says, that "the woods are a farm savings bank to be drawn upon in times of extra need. If it is drawn upon only to the extent of cutting the growth or interest, the capital remains untouched, and the investment continues undiminished."

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ANNOUNCEMENT: The suggestions you have heard, as well as others equally valuable, are all contained in the Farm Woods, A Savings Bank Paying Interest. You can get that publication by writing to Station______or by writing direct to the United States Department of Agriculture. Just ask for Leaflet No. 29.

UNITED STATES
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OF AGRICULTURE
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YOUR FARM REPORTER AT WASHINGTON. Wednesday, October 7, 1931

NOT FOR PUBLICATION

Speaking Time: 10 Minutes. All Regions.

TAKING CARE OF THE PULLETS THIS FALL.

OPENING ANNOUNCEMENT: Ladies and gentlemen, this is the day Your Washington Farm Reporter broadcasts a POULTRY program from Station ______ in cooperation with the United States Department of Agriculture. To-day's subject --- TAKING CARE OF THE PULLETS THIS FALL, is very timely for this season of the year, therefore, I'll pass over the "mike" and let Your Reporter report.

--ooOoo--

Well folks, according to my little red calendar this is the seventh of October. That means that thousands of last spring's pullets are now in their new winter quarters and rapidly adjusting themselves to the production of those wonderful little packages of sealed sunshine commonly spoken of as EGGS.

Of course, not all pullets are in laying houses at this time. There are thousands of them still scratching worms, chasing grasshoppers, and otherwise enjoying life, liberty, and the pursuit of happiness on the OPEN RANGE.

But, whether pullets are in the house or on the open range, they are, at this season of the year, approaching henhood, and its responsibilities, in the way of egg production.

Now, since it's customary to give beginners a word of advice, let's turn to Mr. A. R. Lee, poultry specialist of the United States Bureau of Animal Industry and find out what he has to say about TAKING CARE OF THE PULLETS THIS FALL.

To begin with Mr. Lee says, "Move pullets into winter quarters before they start laying because moving always slows down and usually completely stops egg production." That, of course, is unprofitable. Therefore, if your pullets are not already in the laying house, attend to the matter at the earliest possible time."

Some pullets get the habit of roosting in trees during the hot, summer nights, and if unmolested often keep up this practice throughout the fall and early winter. Mr. Lee says that a cold, icy limb is not a very good roost pole, and he suggests that these tree-dwelling pullets be brought down and

acquainted with the laying house so that they can spend their energy in the production of eggs instead of in holding to frozen limbs.

Some pullets are rather fond of roosting on limbs, and it's sometimes hard to break them away from their favorite roosting limb. If you have any such pullets Mr. Lee suggests that you confine them to the laying house for a few days, or if you prefer, clip the flight feathers from one wing.

Mr. Lee said that the pullets on Uncle Sam's experimental poultry farm at Beltsville, Maryland, were all in the laying house this season by the last of August, and that more than 50 per cent of them are now in production.

In addition to getting the pullets in the laying house early in the season, it's also necessary to give them careful attention at this time of the year because egg prices are always higher in the fall and early winter than at other seasons. Therefore, it pays to take special care of the pullets and encourage them to produce large numbers of eggs during the season of high prices.

Pullet quarters must be clean. This means brushing and scraping regularly as well as disinfecting before the pullets move in.

Mr. Lee says that a master poultryman will generally have a yard of green feed ready for his pullets when they go in the laying house. He likes this idea. Such a plan not only supplies the housed pullets with desirable greens but freshens up the soil around the house.

In that connection Mr. Lee says that if this has not been done there still is time to plow or dig the bare patches of soil in the poultry yard. This applies to general farm conditions where the hens have free range as well as to commercial poultry farms. In connection with plowing he suggests that these bare places be limed.

Pullets often come into the laying house in the fall with a sprinkling of body lice. You poultrymen know what lice do for a laying pullet. It's hard for her to keep her mind on laying eggs when an army of these tormentors are gouging at her.

The best way to find body lice on a chicken is to pick up the bird and examine it. If the lice are there --- the best thing to do is to treat the birds with a good insecticide such as sodium fluoride. In case you want to try a newer method of control paint the top of the roosts with a solution of nicotine sulphate. This method of controlling lice has given excellent results when properly applied and saves handling the birds.

In applying lice powders it becomes necessary to examine birds. This, as I said a moment ago, is not best for laying pullets. Mr. Lee says that every time pullets are handled they are frightened and disturbed, and that this affects egg production. For that reason he recommends the nicotine-sulphate treatment for controlling lice in poultry houses where there are large numbers of pullets. The liquid solution is painted on the roosts late in the afternoon just before the pullets go to roost, and the fumes kill the lice on the birds during the night.

As the early fall season advances and lengthens into cold weather it becomes necessary to tighten, and finally to close up the laying houses in some sections. Mr. Lee suggests that right now laying houses be made comfortable for winter use. Patch leaky roofs, repair broken windows, and put in the glass substitutes. Laying houses should be tight enough to make the birds comfortable; yet not so tight as to shut out the proper amount of ventilation --- that's the rule. Ventilation, of course, must be regulated according to the section, climate, and weather conditions, but ventilation is mighty important.

Dropping boards are a necessity in the modern poultry house. Practically all progressive poultrymen have installed them, yet Mr. Lee says that a tour through nearly any farm section shows that many poultry houses do not have dropping boards.

Young pullets are sometimes timid in taking possession of a nest when nearby nests are occupied. For that reason Mr. Lee suggests plenty of nests in the laying house. He recommends one nest for each five hens. Fill each nest box with clean shavings or straw, and cover the floor with a light layer of litter. Deep beds of litter to provide scratching exercise are not so popular as they once were, but light litter is still recommended for sanitary reasons.

Pullets will not lay unless they get plenty of mash, and they'll manage this end of the feeding problem if allowed to visit well-filled mash hoppers at will.

Grain is also an important part of the pullet ration. It helps to keep them in good flesh and this in turn helps to prevent fall molting which cuts down egg production in the pullet flock. Mr. Lee suggests that pullets should eat about two-thirds of scratch grain to one-third of mash at this season of the year.

If you want to stimulate egg production give the pullets one light feed of moist mash daily. Ordinary dry mash mixed with milk is ideal.

The use of artificial lights in the laying house at this season will also stimulate egg production.

If you want additional information on feeding chickens, controlling lice, or making equipment for the poultry house, ask for the following Department of Agriculture publications;

FEEDING CHICKENS --------------Farmers' Bulletin No. 1541-F.
POULTRY HOUSES AND FIXTURES --Farmers' Bulletin No. 1554-F, and
DISEASES AND PARASITES OF POULTRY - Farmers' Bulletin No. 1652-F.

CLOSING ANNOUNCEMENT: This closes the Washington Farm Reporter broadcast from Station ________. Drop us a line if you want free copies of Farmers' Bulletin 1541-F -- FEEDING CHICKENS, Farmers' Bulletin No. 1554-F POULTRY HOUSES AND FIXTURES, and Farmers' Bulletin No. 1652-F DISEASES AND PARASITES OF POULTRY.

UNITED STATES
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YOUR FARM REPORTER AT WASHINGTON. Friday, October 9, 1931.

NOT FOR PUBLICATION.

Speaking Time: 10 Minutes. All Regions.

SEASONAL FRESHENING OF DAIRY COWS.

OPENING ANNOUNCEMENT: Dr. J. C. McDowell is in charge of the Dairy Herd-Improvement Work of the United States Bureau of Dairy Industry. Your Washington Farm Reporter has just had an interview with Dr. McDowell on THE SEASONAL FRESHENING OF DAIRY COWS. All right, Mr. Reporter, tell us what you found out from Dr. McDowell.

--ooOoo--

That Mr. Announcer, and listening dairymen, would be impossible in one 10-minute talk- or in two or three 10-minute talks. Dr. McDowell has been working on this dairy herd-improvement association project for several years and has enough information at the tip of his tongue to keep a reporter busy 15 hours a day for a long time.

On the subject of the best season for a cow to freshen, Dr. McDowell told me this: "Records of the dairy herd-improvement associations show that cows that freshen in the fall win out over all others in production of milk per cow, production of butterfat per cow, and in income over cost of feed."

I know that some of you listening dairymen, for various reasons, find it necessary to have your cows freshen at some other season than fall, so I asked Dr. McDowell what season took second prize.

"Winter," he replied. "Winter takes second place, spring third, and summer freshening gets the 'booby' prize."

September, October, and November are the fall freshening months. December, January, and February are the winter freshening months, March, April, and May are the spring months; and June, July, and August are the summer months.

According to Dr. McDowell's tabulations, cows that freshen in the fall season eat more dollar's worth of feed than the cows that freshen in any other season, but nobody seems to mind that, because they produce enough more to pay for this extra feed and then some.

Dr. McDowell reminded me that these tabulations were averages for the country as a whole, and that they might not hold true for every locality, nor for every farm in any one locality. For instance, he cited the case of two dairy herd-improvement associations in one of our highly developed dairy States in the East. The cows in one of these associations that were bred bred for fall freshening, won out all along the line by a large margin. In another association the cows that freshened in the spring season won.

There was nothing in the records to indicate why the cows that freshened in the spring won out. However, shortly after this tabulation was made Dr. McDowell was giving a dairy talk in the locality of these two associations. In the course of his talk he told the story that I have just recited about the association winning with the cows that freshened in the spring, and stated that he was still puzzled over the situation but didn't know why it occurred.

After the meeting the county agent explained to Dr. McDowell that the association with cows that won out on fall freshening was in a section of high-priced land and poor pastures, and that the association with cows that won out on spring freshening was in a section of rough cheap land, but good pastures. In other words, it wasn't necessarily the spring freshening that won, but good pastures on cheap land.

Of course, you listening dairymen know that pastures play a mighty important part in the production of milk, and it must be remembered that there is quite a DIFFERENCE in pastures. For example, one of Dr. McDowell's friends defines a pasture "as a fenced-in portion of the earth's surface on which grass does not grow." You would hardly expect a cow that freshens in the spring to win on such a pasture as that. For best results cows need good spring and summer pastures, produced on reasonably priced land.

We sometimes hear of cows that winter on strawstacks and then take most of the summer on good pasture to recover from the bad effects of scanty winter feed. However, this order is sometimes reversed, and good cows become especially thin while summering on poor pastures, and under such conditions it often takes them all winter on expensive feed to recover from the bad effects of poor summer pastures. According to Dr. McDowell, "These things ought not so to be."

A little attention to the building-up of satisfactory pastures, and to the supplementing of these pastures in late summer and early fall with soiling crops, would be a strong factor in keeping our dairy cows at their best during the late summer and early fall.

Dr. McDowell likes the plan of feeding liberally during the winter on alfalfa or clover hay and good corn silage, supplemented, of course, by a well-balanced grain ration. This, naturally, should be followed by a good pasture if one is available. He says that under such a system of feeding, satisfactory returns can be expected, regardless of the season of freshening.

I asked Dr. McDowell if season of freshening would be so important if all cows were kept, fed, and managed under ideal conditions for 12 months in the year.

"I don't know," was his frank reply.

"However," he said, "I do know that under present conditions of care and management those cows that freshen in the fall and winter are the leaders at the milk bucket at least in the central and eastern States where tabulations have been made, and it's quite possible that the same thing is true in other sections, but we do not have all the figures from all the sections yet, so I can be positive only about the sections we have studied."

Now let's summarize some of the high points on this subject-- SEASONAL FRESHENING OF DAIRY COWS.

Dr. McDowell says that cows that freshen in the fall months of September, October, and November generally win out at the milk bucket;

That cows that freshen in the winter months of December, January, and February take second place in amount of milk produced, amount of butterfat produced, and in income returned over cost of feed.

According to his figures tabulated from the records of the dairy herd-improvement associations, spring-freshening cows take third place, and cows that freshen in the summer months go to the foot of the class.

Dr. McDowell calls attention to the fact that good pastures in the pasture season, plenty of feed, and good care and management are more important than the season of freshening.

He closed the interview on SEASONAL FRESHENING DAIRY COWS with a story of a Quaker who sold one of his neighbors a 5-gallon cow. The neighbor could get but 3 gallons of milk a day from the cow, so he complained to his Quaker friend.

"Well," said the Quaker, "you should have bought my pasture too."

In other words, a 5-gallon cow often becomes a 3-gallon cow when feed is not plentiful. This is the 9th of October, pastures are rapidly passing out of the picture for this season, and it's time to begin careful and systematic feeding of dairy cows because, when figured in dollars and cent, feeding, care, and management, are about as important as the season of freshening.

The object of today's broadcast on SEASONAL FRESHENING OF DAIRY COWS is to remind you that breeding plans should be made far in advance so that your cows may be bred to freshen in the fall. Ordinarily this will result in higher production and greater profits.

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CLOSING ANNOUNCEMENT: And so Your Washington Farm Reporter closes one of his regular DAIRY programs broadcast from Station______in cooperation with the United States Department of Agriculture. Drop us a line if you want a copy of this program. Simply ask for the DAIRY REPORTER OF OCTOBER 9, 1931.

UNITED STATES DEPARTMENT OF AGRICULTURE Radio Service OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON.

RELEASE Monday, October 12, 1931

NOT FOR PUBLICATION

CROPS AND SOILS.

Speaking Time: 10 Minutes.

ANNOUNCEMENT: Now let's hear what your farm reporter at Washington has discovered at the United States Department of Agriculture. You know, he visits the specialists there, and brings us their hints collected from many farmers' experiences and tests over many years --- Well, Mr. Reporter, what have we today?

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Well, here are a few suggestions on the handling and storage of fruit, on the permanent garden, and on the care of the lawn, and a few other things.

The leaves are beginning to fall now, and I've been wondering whether I'd better rake them off the lawn or whether to leave them on. But Mr. H. L. Westover says the leaves from trees should be taken off the lawn. He says they are likely to injure the grass by smothering it, especially when the layer is thick enough to hide the grass.

As he explains, leaves have very little plant food in them in a form the grass can use. They are practically worthless as a fertilizer unless they are composted until they are thoroughly rotted. The grasses recommended for the different regions of this country seldom need protection during the winter and they are likely to be injured by the smothering and shading effect of the leaves.

By "grasses recommended" I mean those recommended by the United States Department of Agriculture in its new bulletin called "Planting and Care of Lawns." That new bulletin is Farmers' Bulletin No. 1677. Some of you no doubt will want to get that bulletin to see about that top-dressing for the lawn this fall. Anyway, I guess you will all want to get that bulletin to have the lawn-lore in it at your finger-tips. Mr. Westover, who, by the way, had a big hand in writing that bulletin on the Planting and Care of Lawns, says lawn making is relatively simple and doesn't take an expert.

But he points out that there are certain things we must observe, if we expect to keep our lawns in good condition. To develop and maintain a satisfactory turf, he says that proper fertilizing is essential; but by most folks

that is a feature that is sadly neglected.

Fine well-rotted manure or mushroom soil applied to the lawn in late fall or early winter is a big help, if it is comparatively free from weed seed and you get it distributed evenly.

Sift it. Or get it divided finely somehow. High grade pulverized poultry manure makes a good lawn fertilizer when you can get it at a reasonable cost. Mr. Westover figures that 15 to 20 pounds to 1,000 square feet of lawn is about the right amount. Then, too, there are many brands of lawn fertilizers on the market. But while they are usually effective, they are likely to contain more phosphorus and potash in proportion to nitrogen than the grass needs, and are likely to cost more than the fertilizer ingredients bought separately.

However, Farmers Bulletin No. 1677 goes into this question of fall fertilizers for the lawn much more thoroughly than we can here. In fact, I am proud to report that bulletin has been issued. I for one feel the need of just some such publication. It not only discusses fertilizers, but other vexed questions, such as when and how to lime, and whether to roll or not to roll. And how to get grass started on slope that's another question that has given some of us a good bit of trouble.

Of course, conditions under which a lawn is to be developed are sometimes so unusual as to call for special treatment. In that case, you can usually get help by writing to the State agricultural experiment station or to the United States Department of Agriculture. However, in the new Farmers' Bulletin No. 1677 the practices that have in general resulted in the most satisfactory lawns are set forth in simple language. You may find it very helpful not only this fall but next spring and summer.

Let me just read you the table of contents: Herein are the subjects covered: draigange, grading and leveling, grass soils and soil preparation, preparation and fertilization of the seed bed; seeds and seeding, vegetative planting, sodding, establishing grass on slopes, lawn grasses, grasses for airports, grasses for polo fields, athletic fields, etc., fertilizing, top-dressing, liming, rolling, watering, mowing, weeds, renovating old lawns, and dealing with insects, moles, and grass diseases.

By the way, did you realize that no important cultivated grass commonly grown in this country is native here? They were practically all introduced. Even our old friend, Kentucky blue grass, not only isn't blue, but didn't come from Kentucky originally. These and other interesting botanical facts, I picked up from Farmers' Bulletin No. 1254 on "Important Cultivated Grasses" which has just been revised.

While we are looking over the lawn, and laying plans for its present and future management, let's also take a peep at the permanent garden.

Ordinarily I guess a lot of us think of gardens as being very temporary things. Mr. W. R. Beattie, horticulturist of the Bureau of Plant Industry, however, reminds me that in addition to growing the seasonal supply of annual fresh vegetables, thousands of our farm and home hardens have certain small fruits, and certain of the perennial or more or less permanent vegetables.

Some of those permanent garden crops need attention in the fall, and winter. Grapes are usually propagated by cuttings of the last year's growth made in the late fall or during the winter. And grape vines which have reached the fruiting stage, need to be pruned in the late winter or early spring before the sap starts.

You know, there are many methods of pruning fruiting grape vines prominent among which are the renewal and spur systems. In renewal pruning, all the growth of the year before is cut off except the two or four canes to be saved for the fruiting arms. In the 2-arm system the best arm nearest the trunk on each side of the vine is left and in the 4-arm system two high and two low arms are left in the same way.

In spur pruning, the fruiting arms are left year after year and the shoots of the year before are cut back to spurs of one or two buds. With either renewal or spur pruning you can use different systems of training.

But to get these systems of pruning clearly in mind, I guess we had better have a picture --- Get your pencil ready again --- No, I'm not going to make you sketch those pruned and unpruned vines --- I have a better plan. Just take down the number of this bulletin on "Permanent Fruit and Vegetable Gardens". It is Farmers' Bulletin No. 1242. It not only tells about small fruits, but about asparagus, rhubarb, and other perennial or permanent vegetables.

And if you are interested in growing other home fruits such as apples, pears, peaches, plums, cherries, you will find a good bit about them in Farmers' Bulletin No. 1001, for the Eastern States and, Farmers' Bulletin 1522, for the northern Great Plains Area. But the problem with some of you is taking care of the surplus from your vegetable garden. Farmers' Bulletin No. 879 on Home Storage of Vegetables may give you some helpful hints.

Another thing I want to mention is pop corn. American Indians used popcorn long before Admiral Columbus made that well-known discovery of his which we celebrate each October, but recently scientists of the United States Department of Agriculture have been finding out some new things about varieties of pop corn and what kinds of pop corn pop best.

Those new findings together with the older knowledge of how to grow pop corn have been included in a new bulletin by Dr. Arthur M. Brunson and Mr. Carl W. Bower, of the Bureau of Plant Industry. That bulletin also gives an answer to that question "Does it pay to grow pop-corn?"

And what's expecially to the point this time of the year, it calls our attention to seed selection.

Pop-corn seed should be selected in the field in the fall before the first hard freeze. It is usually better to raise your own seed year after year or get it from some nearby grower rather than get unadapted seed from a distance.

Take ears only from sturdy, erect stalks which bear good ears under conditions of a full stand. Avoid prematurely ripened, diseased, or broken plants. Gather two or three times as many ears as you will need for planting

so as to allow for a liberal culling. Out of 500 ears taken from a field at ransom, the best ones will have grains that will pop to twice the size of the poorest ears.

Here is the way one may get a rough general idea as to what ears will pop best. Split a few kernels from each ear lengthwise with a sharp knife. The kernels from some ears have much less soft white starch in the center than those of other ears. The ones with the least soft starch in the kernels usually will be the ones which will pop to the biggest size. They are the ones most desirable for seed. In fact, you will find Farmers' Bulletin No. 1679 on "Pop Corn" just bursting with information on pop corn growing.

This bulletin and the others mentioned can be had by writing to Station _______ or by writing direct to the United States Department of Agriculture, at Washington, D. C.

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ANNOUNCEMENT: You have just listened to your farm reporter at Washington. For your convenience, we will repeat the names and numbers of the bulletins mentioned. They are free as long as the supply lasts. "Pop Corn" is Farmers' Bulletin No. 1679; "Home Storage of Vegetables" is Farmers' Bulletin No. 879; "Growing Fruit for Home Use" is Farmers' Bulletin No. 1001; "Permanent Fruit and Vegetable Gardens" is Farmers' Bulletin No. 1242; "Important cultivated Grasses" is Farmers' Bulletin No. 1254; and last but not least "Planting and Care of Lawns" is Farmers' Bulletin No. 1677.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Wednesday, October 14, 1931

NOT FOR PUBLICATION

Speaking Time: 10 Minutes. All Regions.

IS IT GOOD BUSINESS TO IMMUNIZE PIGS AGAINST HOG CHOLERA?

OPENING ANNOUNCEMENT: "IS IT GOOD BUSINESS TO IMMUNIZE PIGS AGAINST HOG CHOLERA?" That, ladies and gentlemen, is the important question Your Washington Farm Reporter is going to try to answer at this time in his regular Farm Reporter program broadcast from Station _______ in cooperation with the United States Department of Agriculture. All right, Mr. Reporter.

---ooOoo---

Folks, I want to talk to you for a little while to-day about the prevention of hog cholera, a disease that costs hog raisers of this country approximately $20,000,000 a year. As a matter of fact, it used to cost a lot MORE than that --- and has been known to cost as much as $65,000,000 in a single year, but thanks to the preventive treatment for hog cholera, the loss is now on the down side of the hill and dropping towards the valley -------- but it has quite a distance to travel yet before it drops from sight.

Twenty million dollars is a lot of money. It would build a passenger steamship equal to the Leviathan, or pay for one year's schooling for more than 20,000 college students.

Now folks, $20,000,000 is a big loss to any industry, and especially is it a heavy loss to the farmers and hog raisers of this country who have been standing a similar heavy drain for more than 30 years.

The majority of you listeners are familiar with the fact that hog cholera outbreaks have been above the average this fall, and that heavy losses have already occurred in some sections of the country.

Naturally, hog cholera is most prevalent in the Middle West and the South, where hogs are raised in great numbers, but it is found in every State in the Union and in practically all parts of the world.

In the South, where the winters are mild, severe outbreaks of hog cholera may occur at any season of the year, but as a rule, and for the country as a whole, the disease reaches its greatest height during October and November.

After this time it dies down rapidly, particularly after snow falls, and reaches its lowest point in February.

Since this is the fourteenth of October and the peak season for cholera outbreaks I thought you listeners might like some information on the subject so I went over and had a talk with Dr. U. G. Houck, associate chief of the United States Bureau of Animal Industry.

I asked Dr. Houck three questions. Can we prevent hog cholera losses? How can it be done? When is the time to start?

"Yes," he replied, "it's possible to prevent a large amount of this hog-cholera loss.

"How can it be done?"

"By prevention," is Dr. Houck's answer. And the way to prevent hogs from getting hog cholera is to take every reasonable precaution to avoid exposure and when danger threatens resort to the immunization treatment. While the pigs are small, the cost of immunizing is comparatively low, and the trouble negligible. That's one reason why it's good business to immunize pigs against cholera while they are young.

There are two natural seasons of immunization against hog cholera from the economic standpoint. One is the spring season soon after the pigs are weaned and the other season is the fall of the year soon after the fall pigs are weaned.

From an economic standpoint it's good business to immunize pigs while they are young, Dr. Houck reminded that it's also good business to treat any hog at any season of the year if there is danger of hog cholera from a local outbreak.

I asked Dr. Houck if it is safe to immunize suckling pigs.

"Oh, yes," he replied. "The Bureau of Animal Industry has had good results from immunizing suckling pigs. However, the tendency among practicing veterinarians is to treat pigs soon after they are weaned, or when they are approximately 10 or 12 weeks old."

"Dr. Houck," I questioned, "would you immunize your hogs whether or not there was any hog cholera around?"

"No," he replied. "The Bureau of Animal Industry does not urge general and country-wide immunization but it does recommend that all pigs be immunized in communities where hog cholera habitually appears year after year. Personally, I would consult a good, reliable veterinarian, and let him guide me in regard to my immunizing operations."

I asked if a farmer could treat his own hogs.

"Oh, yes," the Doctor answered, "He can do the immunizing all right, but he is generally not prepared to make the proper diagnoses, and to know just

how much serum and virus to administer. For example, the disease might be influenza, pheumonia, or necrotic enteritis, and not hog cholera at all. Furthermore, a good veterinarian is in a better position to know about the dosage, sanitary precautions and other safeguards to follow in immunizing pigs or even old hogs."

I don't think it necessary for me to go into details of immunization because I'm sure that the majority of you listeners are already informed on that part of the subject. Besides, at the end of this talk I'm going to give you the number and title of the newly revised Farmers' Bulletin on HOG CHOLERA.

Now, why is it good business to immunize pigs against hog cholera?

The answer is simple. A pig at weaning time, approximately 10 or 12 weeks old, ought to weigh from 20 to 40 pounds, and the cost of immunizing a pig of this size and age will run around 25 cents a pig this year. Now contrast 25 cents, the cost of immunizing a small pig this fall, with, say, one dollar, the approximate cost of immunizing a large hog, and you can see what a saving can be made by treating young pigs.

Now, why have cholera outbreaks been heavier than usual this fall?

Well, that question is not so easily answered, but it is a known fact that when the price of hogs is low and money scarce, that many farmers who ordinarily immunize their pigs at or about weaning time, simply don't do it. In other words, they take chances. Field reports to the Bureau of Animal Industry indicate that the immunization of pigs last spring was from 25 to 40 per cent below what it ordinarily is during the spring season. That may or may not be one reason for the heavy outbreaks of hog cholera this fall.

Summarizing, Dr. Houck says that it's a good policy to immunize in case of local outbreaks whether or not cholera has been prevalent in your immediate section, and that it's more economical, where immunization is practiced regularly, to immunize the pigs about weaning time.

Now, have you lost any hogs from cholera this fall? Did you lose any last spring? Are you planning to take chances the remainder of this fall, or will you immunize and feel safe when your neighbor's hogs have an outbreak of cholera?

Cholera losses can be prevented, and it's up to you to decide on immunizing or taking a chance. Remember the chance takers <u>lost</u> about twenty million dollars last year.

If you want the latest and newest information on hog cholera write to the United States Bureau of Animal Industry, Washington, D. C., and ask for a free copy of the newly revised Farmers' Bulletin No. 834-F, entitled "HOG CHOLERA."

This 30-page bulletin says, among many other things, that hog cholera destroys more hogs in the United States than all other diseases combined, that hog cholera is preventable, and that spring and fall are the natural seasons to immunize young pigs. By the way, there's a new poster just issued by the

bureau on how to prevent cholera. Write for it and tack it up in your community hall as a reminder for your neighbors.

CLOSING ANNOUNCEMENT: Ladies and gentlemen, you have been listening to Your Washington Farm Reporter broadcast a LIVESTOCK program from Station _______. If you want a free copy of the newly revised Farmers' Bulletin No. 834-F, entitled "HOG CHOLERA," send your request to this station or to the United States Department of Agriculture in Washington, D. C.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Friday, October 16, 1931

NOT FOR PUBLICATION

SPEAKING TIME: 10 Minutes. All Regions.

HOW MUCH DOES IT COST TO FEED A DAIRY COW?

OPENING ANNOUNCEMENT: Ladies and gentlemen, Your Washington Farm Reporter is going to use the next ten minutes in trying to answer the question, "HOW MUCH DOES IT COST TO FEED A DAIRY COW," That's such an important question at this time of the year that I'll take no more time with announcements but pass over the "mike" and let Your Reporter report.

—ooOoo—

When you begin to talk to progressive dairymen about the advantages in keeping high-producing cows some of them come right back with the question HOW MUCH DOES IT COST TO FEED THESE COWS?

That, my dairy listeners, is a sensible question because the cost of the feed that a dairy cow eats has a lot to do with the size of her owner's income.

This is the sixteenth of October, and the season draws near when dairymen find it necessary to put the cows in the barn and begin expensive winter feeding. I say expensive winter feeding because it's much more expensive to feed a cow out of a sack during the winter season than to permit her to gather her own feed from a nice summer pasture.

Mr. J. E. Dorman of the United States Bureau of Dairy Industry says that, according to a tabulation of the records of more than 400,000 cows in the Dairy Herd-Improvement Associations, it cost on an average of $80 a head to feed these cows in 1930. That figure is an average for all the seasons and includes an allowance for summer pasture.

Here's a surprising thing. Mr. Dorman's figures reveal the fact that, for the country as a whole, it cost about as much last year to supply a cow with roughage as it did to keep her filled up with grain. That may be news to some of you listeners because there is a sort of subconscious belief back in the minds of some dairymen that the grain feed is the expensive part of old Sis Cow's daily ration.

Of course, grain is expensive, but when a cow gets all the roughage she needs, she doesn't require so much grain. That's not only good for the cow,

but it's worth a lot to the pocketbook, because, as a rule, roughage is cheaper than grain.

Mr. Dorman says that the cost of feeding 400,000 cows in the Dairy Herd-Improvement Associations in 1930 averaged $80 a head and that $41 of this went for grain while $39 for roughage. In other words, it was almost fifty-fifty.

In sections of cheap labor and home-grown feeds some dairymen were able to feed their cows at an average cost of $15 a cow during 1930, but their milk checks were not very big as I will point out in a moment. On the other hand, there were many dairymen who found it necessary to use more than 150 dollars' worth of feed per cow in order to produce the best results in 1930. Let me give you an example.

According to Mr. Dorman's tabulations it cost an average of $208 per cow to feed the cows in one herd containing 150 cows. Another herd, containing about 30 cows, got through 1930 on roughage and pasture for an average of $20 a cow. That sounds good until you hear the rest of the story which says that the cows in the big herd produced on an average of 451 pounds of butterfat per cow and returned an average income over cost of feed of $201 per cow; while the average cow in the small herd produced 150 pounds of butterfat and returned an income over cost of feed of exactly $40 per cow. In other words, one dairyman got $200 for his overhead and labor while the other got $40.

Of course, as Mr. Dorman points out, there is a difference in the producing ability of individual cows, and no amount of overfeeding will make up for this difference because it's inherited. That brings up the problem of culling out the low-producers and breeding for more efficient production rather than for greater production.

In that connection Mr. Dorman says that the average cow in the Dairy Herd-Improvement Associations produced on an average of 302 pounds of butterfat in 1930, and that this average could be raised by culling out some of the low and inefficient producers. For example, the 1930 records of 200,000 cows show that 11,000 of these did not pay for the cost of the feed they ate, while their owners got nothing and in some cases less than nothing for their work.

Naturally, the cost of feeding cows in some parts of the country is greater than it is in other sections. For example, the average cost of feeding a Dairy Herd-Improvement Association cow in the New England States in 1930 amounted to $101.

In the South where they are able to pasture for a longer season the cost of feeding a cow was not quite so great. For instance, tabulations from 4 southern States show that the average cost of feeding a Dairy Herd-Improvement Association cow in 1930 amounted to $80 a cow.

In the western States of Montana, Colorado, Utah, Idaho, and Washington, the average cost of feeding a Dairy Herd-Improvement Association cow in 1930 was exactly $74 a cow.

Dropping back to the middle-western States of Kansas, Nebraska, Iowa, and South Dakota, we find that it cost only $66 a cow to feed the individual cows on test in the Dairy Herd-Improvement Associations of those States in 1930.

Summarizing, we note that the cost of feeding Dairy Herd-Improvement Association cows in 1930 decreased as we went south and west of the New England States and into the natural regions of alfalfa and other legume hays.

Commenting on that phase of the tabulation Mr. Dorman says that it shows that dairy cows can, as a rule, be fed cheaper and perhaps better in sections where alfalfa and other legumes grow naturally. As a matter of fact, a map of dairy developments during the past 10 years shows that the greatest expansions took place in the regions that produce alfalfa or other legume hays. Putting it still another way, dairymen who figure on the cost of feeding cows find it profitable to be near large supplies of good, but cheap roughage, preferably alfalfa or other legume hays.

Mr. Dorman says that there may be some cows that are actually "over-fed," but that the number is small compared to the thousands that are "under-fed." He says that economical feeding depends on knowing the ability of the cow to produce and then feeding accordingly. This means keeping production records. Without production records, intelligent feeding is absolutely impossible.

One man says that he starts feeding his cows moderately, and gradually increases the grain ration until the cows cease to increase their production. He knows then that they have reached the limit of their ability. He then reduces the grain ration until the cows begin to show a tendency to fall off in production. In this way he says that he can balance the feed for his cows as easily as he can balance a rail over a pig's back.

Now, how much does it cost to feed a cow?

That depends on where you live, how much feed you raise at home, how much you buy, and how much milk the cow produces.

Of course, we can't swap places with the different sections of the country. That would be impossible, besides every section has its own advantages, but we can, in many instances, produce more cow feed at home, and in all instances we can keep PRODUCTION RECORDS.

CLOSING ANNOUNCEMENT: And so, ladies and gentlemen, we conclude another Washington Farm Reporter program broadcast from Station ______ in cooperation with the United States Department of Agriculture.

UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
OFFICE OF
INFORMATION

YOUR FARM REPORTER AT WASHINGTON (Crops and Soils)

Release Monday, October 19, 1931.

FOR BROADCAST PURPOSES ONLY

Speaking Time: 10 minutes

ANNOUNCEMENT: Here's the Washington Farm Reporter with more news for us from the Federal scientists concerned with agriculture. What are you going to tell us today Mr. Reporter?

--ooOoo--

I have got some more facts about a question that is agitating people in farm communities as the semi-annual tax payment date draws near.

You guessed it. Tax reduction.

A good many methods of reducing taxes appear before the public these days. One that puts in a regular turn on the stage of public discussion is the matter of possible farm tax reduction by changing and consolidating local governments.

In the Department of Agriculture at Washington, there is a man whose job is the study of farm tax problems. So I took this question to him. I found him in a red brick warehouse sort of a building just about a whoop and half a holler from the banks of the Washington channel of the Potomac river.

I introduced myself and he introduced himself to me as B.W. Allin, of the Division of Agricultural Finance in the Bureau of Agricultural Economics.

Then I asked him if it is possible to reduce farm taxation by changing local governmental units.

That set Allin to going and I'll report to you in the next nine minutes what he told me, in as close to his own words as I can get.

"Farmers on the average will have to sell three times as much produce this year with which to pay their taxes as they did in 1913. This statement rests on the fact that farm produce on the average is now selling for only three-fourths as much as it did before the war, and farm taxes per acre in 1930 were more than 2 1/2 times the pre-war level.

"From the standpoint of the farmer, the farm tax problem has been viewed largely as a problem of how to shift a part of the farm tax burden to shoulders more able to bear it. I don't want to minimize in the least the

importance of this aspect of the problem. Nevertheless, especially in times like these, you have got to deal with all parts of the problem,

"Now, most of the farmer's tax is a local tax devoted largely to defraying the costs of rural counties and their political subdivisions such as townships and school districts. The development of the automobile during the last 20 years has been one of the more important causes of the great increase in the cost of county and township government. Today the automobile, and the highways, built as a consequence of its development, are causing public authorities and others to question seriously the real usefulness of a considerable number of our counties, townships and school districts - either from the standpoint of efficiency or democracy.

"During the past 12 months three studies bearing directly on this question have been made by three separate and distinct agencies and in three quite unlike sections of the country. It is the conclusion of all three that there is a great need for centralization and modification of our system of local government in the interest of efficiency and economy.

"Last November, the Colorado Agricultural Experiment Station in cooperation with the Division of Agricultural Finance of the Bureau of Agricultural Economics, published the results of a study in Larimer County, Colorado, on the cost of public education from the viewpoint of agriculture. Some of the more significant facts and conclusions of this study are as follows:

"'There are 46 separate taxing and spending units in the school system of Larimer County.

"'The school board of each district is practically independent of any outside authority in the management of its schools. These boards spend more than 50 per cent of all local taxes.'

"The Colorado study goes on to say, 'This district system of schools is the oldest system we have in the United States. It was first adopted by Massachusetts in 1787 but was abolished by the same state in 1882. Colorado still clings to the old system in spite of the fact that all of the conditions that suggested or compelled its adoption have long since disappeared. The system defies admininstration which is either efficient or economical. There is need to do away with all of the rural school districts and to adopt the county unit school plan. It is believed that such centralized authority would save taxpayers thousands of dollars.'

"Finally, according to the Colorado study, '(Utah's schools as well as those of ten other states are administered under the county unit plan). Utah's rural schools are as effidently managed as the schools of our Colorado cities. Where Utah has only 40 school districts Colorado is burdened with 2,032 school districts, while Larimer County alone has more school districts than the entire state of Utah.'

"So much for the Colorado study.

"At the request of the Governor of North Carolina, the Brookings Institution made a study of the administrative system of county government in that state and published their findings last February. These investigators conclude that 'Unquestionably, the expense of maintaining many departments and activities of county goernment can be eliminated by consolidation of counties.' They went

further and recommended 11 specific consolidations which they believed could be made with advantage.

"Now let's turn to New Jersey. A study being directed by Professor H.L. Lutz of Princeton University for the New Jersey Commission to Investigate County and Municipal Taxation and Expenditures finds that there are 562 local governmental units in that state -- a state whose area is only 8,224 square miles. After examining the facts concerning these units one of the conclusions is that the over-complexity and excessive number of governmental units is a fundamental cause of high governmental costs and high taxes. As a solution it is recommended that many of the functions of the counties be transferred to the state and that the counties perform the functions now performed by townships and school districts.

"All of these studies agree that greater centralization can reduce taxes or improve the service for the taxes now paid. But any proposal looking toward greater centralization naturally encounters the argument that is a violation of home rule. The New Jersey investigators find that 'it is perfectly apparent that the fruits of an extreme home rule policy have been the development of inefficient types of local government, the failure often to observe ordinary prudence and business judgment in the administration of local affairs, and the creation of an unnecessarily expensive scheme of local government.'

"If studies were made in other states the same conclusions might or might not be reached. Even the conclusions of these studies may be wrong. At any rate they are more than suggestive. Wherever local government is inefficient and costly due to a multiplicity of governing bodies the issue is between home rule on the one hand and efficiency or lower taxes on the other. And even where the decision is in favor of home rule it should be made with open eyes. The price that is paid for it should be known. There is no way to find the cost of extreme home rule except by studying it in every state.

"You will note that none of the studies to which I have referred has attempted to estimate the extent to which farm taxes could be reduced by the recommended changes in local government. To construct such estimates for typical areas in different parts of the country is a part of the work that is now being undertaken by the Division of Agricultural Finance, of the Bureau of Agricultural Economics, in cooperation with State Experiment Stations.

"Many instances, no doubt, will be found in which reorganization of local government would affect efficiency very little, if any. In a much larger number of cases the actual results of any efforts to take advantage of opportunities to increase efficiency are likely to take the form of improved service rather than tax reduction. Farm tax relief through changes in local government is not to be regarded as a panacea. Nevertheless, the evidence strongly suggests that in many places the greatest opportunities for either increased efficiency or tax reduction are to be found in such changes. In spite of the fact that no quantitative estimates of the possibilities are now available, this consideration might well be included in programs for farm tax relief through governmental economy and a fairer distribution of the tax burden."

---oooOooo---

CLOSING ANNOUNCEMENT: Thanks, Mr. Reporter, for your summary of recent farm tax studies. Leave us a copy of your talk. We'll mimeograph it so any of our listeners wanting copies may have them.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Wednesday, October 21, 1931

NOT FOR PUBLICATION

Speaking Time: 10 Minutes. All Regions.

REPORTS OF NEW PROGRESS IN POULTRY SCIENCE.

OPENING ANNOUNCEMENT: Ladies and gentlemen, Your Washington Farm Reporter is going to use the next 10 minutes in summarizing REPORTS OF NEW PROGRESS IN POULTRY SCIENCE. This program comes to you from Station______in cooperation with the United States Department of Agriculture. All right, Mr. Reporter.

---oOo---

Well folks, I want to talk to you for a little while today about new developments in the field of POULTRY SCIENCE.

The POULTRY SCIENCE ASSOCIATION is the name of an organization composed of members from all parts of the country and Canada. This association meets at some point every year for the purpose of reporting progress in extension, teaching, and research poultry work.

It hasn't been long since the POULTRY SCIENCE ASSOCIATION closed its 23rd annual meeting, held this year at the University of Kentucky at Lexington.

Through the courtesy and assistance of Mr. A.R.Lee, our poultry friend in the United States Department of Agriculture I'm going to attempt to give you listeners a summary of a few of the high lights of the Lexington meeting.

We'll open with an item on the cost of producing turkeys because Thanksgiving is just around the corner and everybody likes to talk about turkey around Thanksgiving.

Mr. O.A.Barton of the North Dakota Agricultural Experiment Station reported that the feed cost of growing a turkey to maturity or market weight averaged from 7 to 12 cents a pound of turkey. In other words, the North Dakota station found out that it cost from 7 to 12 cents for feed to produce a pound of mature turkey. This, of course, does not include losses of young stock, labor, interest on investment, taxes and other costs.

Mr. Barton said that the North Dakota station found that the feed cost of producing mature turkeys is affected by such things as mortality, and date of mortality, nature of feed, relative cost of feed, vitality of stock, and the size of the turkeys.

His report indicates that a turkey makes its greatest gain in weight during the fourth month of its life.

There has been a lot of talk during the past few years about the value of milk for fattening poultry, and the low price of milk products have made it possible for many State experiment stations to conduct numerous investigations along this line.

For instance, Indiana, Ohio, and Nebraska reported experiments using various milk products in the feeding of poultry, and all these reports stated that milk products gave good results not only in the fattening pen but in egg production as well.

Now we come to something that will interest many of you poultrymen. This report is from the Massachusetts State College, and was presented at the Lexington meeting by Mr. J.C. Graham.

This report showed that there is a decided correlation between the weight of a pullet at the time she lays her first egg and the average monthly egg weights throughout the year.

Mr.Graham's report was based upon the studies of two station flocks of Rhode Island Reds, one hatched in the spring of 1928 numbering 160 birds, and the other hatched in the spring of 1929 numbering 220 birds.

All eggs from each flock were weighed throughout the year. Each flock was housed in its own pen, but both flocks received the same kind of feed and had similar care and management.

Mr. Graham reported that the high point in egg size was reached in the 1928-hatched flock in February, while the high point in egg size in the 1929-hatched flock was reached in March.

The report says that there was an upswing in egg size in September in both flocks, but that the upward trend in one flock was much greater than it was in the other flock.

Since these flocks that I'm talking about have been similarly bred for a number of years, Mr. Graham says that it is apparent that environment and possibly other factors govern to a greater of less degree the variability of egg size at different periods of the year.

Commenting on the results of the Massachusetts experiment Mr. Lee says that it is very important that pullets be well grown and of good size before they start to lay.

Premature egg production is nearly always at the expense of the pullet's physical body, and is not recommended. On the other hand, a fully matured pullet of a good size not only lays a good-sized egg but egg production is not such a tax on her physical body.

That's why your pullets ought to be well grown and fully matured before they start to lay.

Another important report at the Lexington meeting answered the question "IS THERE AN EGG-LAYING TYPE OF OUR DOMESTIC FOWL?

That question was answered by Dr.Morley A.Jull in charge of the poultry office of the United States Bureau of Animal Industry.

Dr.Jull says that the type of fowl as influenced by their skeleton showed no relation to egg production. In other words, it's the breeding and condition of a hen that influences egg production rather than the shape or type of her skeleton.

Don't misunderstand what I have just said. It has no connection with culling hens by the Hogan method of handling. Summer culling is one of the most popular methods of weeding out loafing hens, and is still recommended.

There has been a lot of recent publicity about the New Jersey method of selling eggs by AUCTION. Mr. A.E.Jones of the New Jersey Bureau of Markets reported on this experiment at the Kentucky meeting.

He says that the object of the auction method of selling eggs in New Jersey is primarily to interest people in the products of their own State. It is hoped that the method will encourage the production of more finely graded and more carefully packed eggs by means of rewarding the individual producer for his care and effort.

The New Jersey auction program requires successful cooperation on the part of State agencies as well as on the producers themselves. There are no binding contracts in the New Jersey auction project, and high membership fees have also been eliminated since each producer pays for the services rendered and nothing more.

Perhaps I should explain that the report says that the success of the Jersey system of selling eggs by auction requires concentration of production within a limited distance of great consuming centers; the elimination of practically all wholesale receivers, and the substitution of the small broker or retailer who is in a position to pay cash for the eggs.

Mr.Jones says that the system has proven successful under present, New Jersey conditions.

And now folks, I'm just exactly half-way through with the report I expected to give you at this time, but the studio clock says that my ten-minute period is up, so I'll give you the rest of the report next week. Until then, good-bye, and good luck.

CLOSING ANNOUNCEMENT: Ladies and gentlemen, you have been listening to Your Washington Farm Reporter broadcast a regular Farm Reporter program from Station_______in cooperation with the United States Department of Agriculture.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF
INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Friday, October 23, 1931.

NOT FOR PUBLICATION.

Speaking Time: 10 Minutes. All Regions.

HOW DO YOU MAKE GOOD LIVESTOCK PICTURES?

OPENING ANNOUNCEMENT: "HOW DO YOU MAKE GOOD LIVESTOCK PICTURES?" That, ladies and gentlemen, is the interesting question Your Washington Farm Reporter is going to try to answer today in his regular Farm Reporter program broadcast from Station________in cooperation with the United States Department of Agriculture. All right, Mr. Reporter, let's have your story.

---oooo0oooo---

Thank you, Mr. Announcer. I wish I could present the story just as it was given to me by Mr. W.A. Stenhouse, official photographer of the United States Bureaus of Animal and Dairy Industry, but that would involve a description of how to make a pig smile, a cow grin, and a horse laugh, and it would be impossible for me to do that in the 10-minute period allotted to this program, so, like the man in the well with a snake, I'll cover the ground by touching the high points and doing that fast.

Mr. Stenhouse, a good-natured Virginian, who has been photographing animals in the United States Bureau of Animal Industry as well as in the Bureau of Dairy Industry, for more than 10 years says that there are several reasons why people want photographs of livestock.

First, they want good pictures of prize winners at stock shows and fairs to illustrate articles on particular breeds.

People may also use livestock pictures as a means of selling breeding stock.

In breeding and feeding experiments pictures are used in recording results, including pictures of animals raised by boys and girls in club work.

As a general rule, to obtain the best photographs for such purposes as I have just mentioned the services of a professional livestock photographer are required.

There are, however, many owners of livestock including thousands of 4-H Club members who have none of those business reasons for photographing animals, but who for various other reasons want a picture which does not require too much time, trouble, and money.

That's the kind of picture making that I'm talking about to-day, and I'm talking about it now because this is the twenty-third of October, the time of year when many animals are returning from fairs and expositions with various colored ribbons tied to their halters.

Now, if you want to make pictures of these prize-winning animals while they have on their exposition clothes, or if you want to make inexpensive pictures of any animals, so far as that is concerned, Mr. Stenhouse offers you the benefit of his 10 years of experience behind the camera.

I know that as a rule it isn't good business to tell a baby <u>not</u> to put beans up his nose, and <u>not</u> to do this and <u>not</u> to do that, but there are exceptions to all rules, and in order to make good livestock pictures Mr. Stenhouse suggests that you memorize 5 <u>DON'TS</u> before you click the shutter that records the likeness of your most treasured animal.

First, don't make a picture with a bad background.

Second, don't make a picture with the light in the wrong direction.

Third, don't photograph an animal while it is improperly or unnaturally posed.

Fourth, and this is the only technical don't in the list, don't use a short focal length (With which most small cameras are equipped), while trying to bring out certain points such as the udder of a dairy cow, or the width of the brisket of beef animal.

Fifth, and last, don't click the shutter until the animal registers that million-dollar look, which, when translated into our language means "I'm the most wonderful animal in the world, <u>look</u> at me."

Regarding the focal length of the lens, Mr. Stenhouse says that while a lens with a long focal length will give better perspective than a short one, many people get satisfactory pictures with an ordinary small camera such as thousand of you listeners have in your homes. Just ordinary cameras that you use on outings and other occasions.

Now let's turn from the <u>don'ts</u> to the <u>do's</u> and take up some of the steps that have helped Mr. Stenhouse make good livestock pictures.

To begin with he says that distant hills or trees make ideal backgrounds for good livestock pictures. If you have nothing of this kind handy you'll have to do the best you can with just the sky for a background. That is, of course, if the animal to be photographed is a dark-colored one. A white or light-colored animal will not stand out unless there is a dark back-ground of some kind.

Backgrounds are mighty important in the making of livestock pictures and I could say a lot more about them, but I must jump to another high point.

Mr. Stenhouse says that you get a better picture when the sunlight is directly behind the back of the person making the picture and shining squarely on the side of the animal being photographed.

When it comes to posing, you'll just have to make the best of local conditions. Some animals can be photographed on level ground, while with others it may be necessary to place the fore feet on ground slightly higher than that occupied by the hind feet. Avoid awkward, and out-of-the-ordinary poses. Make the animal stand naturally.

When you are making livestock pictures with the average popular-type camera remember that the straight side view is generally best. Of course, you can bring out a dairy cow's udder by placing the cambera closer to that portio but that will cause the size of her head to grow smaller and vanish in the distance like the converging lines of a railroad. For best results with the small camera Mr. Stenhouse says stick to the side view or a slight modification of it.

In making pictures of dairy cows it's wise to elevate the camera so that neither hip sticks above the top line. This will require a little experimenting with the "finder" on your camera.

Finally, if you want to make good livestock pictures, have the patience of Job, never be in a hurry, and don't click the shutter until the animal registers that million-dollar look.

For best results attract the animal's attention so that it is looking straight ahead and slightly toward the camera. The ideal pose that Mr. Stenhouse likes is to have the animal's head turned toward the camera just enought to get both ears in the picture without having the animal look directly at the camera.

You may have to do anything from waving your hat to bellowing like a calf. Different individuals require different methods to make them look interested.

Now, how do you make good livestock pictures?

By making use of good backgrounds, having the animal properly posed, taking advantage of the natural sunlight, elevating the camera properly, taking slightly modified side views, being patient, and never clicking the shutter of the camera until the animal registers that "LOOK-AT-ME." pose.

Now folks, I've touched on only a few of the many pointers that Mr. Stenhouse gave me on the making of good livestock pictures, but that black hand up here on the studio clock is so close to my stopping point that I've got to make another jump so good-bye and good luck until next week.

CLOSING ANNOUNCEMENT: Ladies and gentlemen, you have been listening to a presentation called Your Washington Farm Reporter broadcast from Station ______ in cooperation with the United States Department of Agriculture. You are invited to tune in next week for more Washington Farm Reporter programs.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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YOUR FARM REPORTER AT WASHINGTON RELEASE Monday, October 26, 1931

Crops and Soils.

NOT FOR PUBLICATION

ANNOUNCEMENT: Today your farm reporter at Washington brings us a report from specialists of the United States Department of Agriculture about some of the new discoveries in the use of fertilizers ---- Well, Mr. Reporter, let's have it ! -------

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Yes, I'm reporting today from the fertilizer front. -----

You know, the use of fertilizers in this country is becoming more and more important. And as their use spreads, it gets more and more evident that we can't use shot-gun prescriptions in furnishing food to plants. Each crop has its different needs. What works well on one kind of soil may not be what is needed on another. And sometimes these newer, cheaper fertilizers we have nowadays don't give the results we expect.

In fact, there seem to be a thousand and one problems in the use of fertilizers. But the scientists of the United States Department of Agriculture and our State Experiment Stations are patiently working to solve some of those problems. They are working on one crop here and another crop there. They follow the good old plan of growing the same crop in the same kind of soil under different fertilizer treatments. And they are getting some remarkable results.

For instance, Dr. J. J. Skinner, of the Bureau of Chemistry and Soils, who is just back from the North Carolina station, has been telling me about some of the findings down there which may save a lot of money for strawberry and sweet potato growers. Of course, those results apply most especially to the types of soil on which those experiments were tried. But they may give suggestions to workers on other crops and other soils. Anyway, they are fine illustrations of the kind of investigations being conducted in different parts of the country to find how best to fertilize various crops.

Heretofore, it has been the common practice of strawberry growers on the sandy loam of the Chadbourne, North Carolina, section, to put on fertilizer twice a year. The first application has usually been in September or October and the second in March. It was just one of those "quaint old customs" that sometimes get started for no particular reason that anybody can find out.

In these experiments, however, strawberries were grown under that twice-a-year treatment, and others were grown under different systems of fertilizing. As a result of those trials, Dr. Skinner says, it was discovered that one application of fertilizer soon after the bearing period in July or August got lots better yields. In fact, by putting the fertilizer on earlier either in one or two applications an increase of $60 to $70 an acre in the value of the crop was obtained. That's what came from just that change in time of applying the fertilizer.

Of course, not only the time it is put on, but the kind of fertilizer, is highly important. Dr. Skinner reports that the use of quickly available nitrogen materials has resulted in better root development of the plants during the winter, more thrifty plants in the early spring, capable of producing earlier and larger strawberries.

The earliest, best quality berries were obtained with a fertilizer mixture containing 6 per cent nitrogen, 8 per cent phosphoric acid, and 6 per cent potash. These experiments were carried on in the sandy loam section of North Carolina, but Dr. Skinner thinks it probable the results will prove applicable to much of the Southeastern truck belt. However, he does not expect them to apply in the West.

Equally striking results have been had from experiments on sweet potatoes in Currituck County, North Carolina. North Carolina has become the largest sweet potato producing State in the Union, and the sweetpotato growers are now profiting by six years experimental work to help them with some of their fertilizer problems.

Dr. Skinner told me about that sweet potato work too. It seems that formerly the growers did not use enough potash to produce the largest, most economical yields. By including additional potash constituents in the fertilizer, the sweet potato experimenters in that section have increased yields of sweet potatoes 50 bushels to the acre. The cost of the extra potash is small, but the profits which resulted from its use are big.

You understand, the growers on those sandy soils in that section have got to use commercial fertilizers. Yet the use of the fertilizer materials which have come on the market since the war, and which contain agreat deal of quickly soluble salts, has resulted in injury to their young potato plants. It seemed to cause the young tender plants to die and those which survived to have poor, weak stems, resulting in slow growth, and late maturing of the crop.

Those growers sent up a Macedonian cry to the soil scientists. The scientists of the State station and the Federal government responded and the long series of growing experiments was started to locate the trouble.

As the sweet potato people had been in the habit of putting all the fertilizer down before the plants were set. The investigators tried that way, and other ways too; using those new quickly soluble salts which had been blamed for the trouble.

Well, sir, to make a long story short, Dr. Skinner now reports the finding that sweet potato growers can still use those newer, cheaper fertilizers by making the application of fertilizer as a side-dressing or by broadcasting it over the row after the plants have been set and the roots have become well established.

But that is not all. Not only can the sweet potato growers save by using those cheaper fertilizers. Dr. Skinner says that in a large number of experiments, the yields obtained by broadcasting the fertilizer on top of the row have been 25 to 30 bushels to the acre more than where the fertilizers were put under the row before the plants were set.

That shows you what a big difference there may be between sound fertilizing practice and just going it blindly.

And some of these fertilizer experiments have done more than point the way to bigger yeilds and lower costs of production.

In that connection, Dr. Skinner mentioned these now famous tomato experiments on certain soils of the east coast of Florida. As you recall, tomato growers in that region seemed unable to grow tomatoes without stable manure. To supply their fertilizer needs, they had to ship in stable manure from considerable distance at heavy cost. When commercial fertilizer mixtures were tried they didn't seem to do the work.

Then it was discovered that what these particular soils needed was just a little manganese sulphate. It was found that instead of having to haul in large quantities of stable manure at big expense, even better results could be obtained much more cheaply by the addition of a little manganese sulphate. However, Dr. Skinner points out that that discovery has meant more than just reducing the costs to tomato growers. The addition of a trifling amount of manganese sulphate to the regular commercial fertilizer mixtures was found to make those particular lower east coast Florida soils fit for other crops. The discovery opened up a vast area for growing general truck crops. It has led to the getting away from a one crop system.

Crop diversification, lower first costs, and more economical production through bigger yeilds per acre, those are some of the results already obtained from the experiments on various soils on different crops here, there and yonder in this great country of ours. Maybe we will have some more to report next time.

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ANNOUNCEMENT: You have just heard your farm reporter at Washington reporting some of the recent results in soil and fertilizer investigations by our State Experiment Stations and the United States Department of Agriculture. Station _______ presents these reports in cooperation with the Department.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Wednesday, October 28, 1931.

NOT FOR PUBLICATION.

Speaking Time: 10 Minutes. All Regions.

REPORTS OF RECENT PROGRESS IN POULTRY SCIENCE.
TALK No. 2

OPENING ANNOUNCEMENT: Ladies and gentlemen, Your Washinton Farm Reporter is in the studio and ready to broadcast his second talk on "REPORTS OF NEW PROGRESS IN POULTRY SCIENCE." This program comes to you from Station ______ in cooperation with the United States Department of Agriculture. All right, Mr. Reporter.

--ooo0ooo--

Well folks, I want to continue now the discussion that I started last Wednesday on "REPORTS OF NEW PROGRESS IN POULTRY SCIENCE."

As you listeners perhaps recall I was picking out a few of the more important high lights from the reports of the 23rd annual meeting of the POULTRY SCIENCE ASSOCIATION, held this year at the University of Kentucky at Lexington.

Fowl diseases have always caused poultrymen a lot of grief, and have frequently turned anticipated profits into downright losses. That's why progressive poultrymen welcome any new information relative to the treatment, control, and suppression of poultry diseases.

Infectious bronchitis, sometimes called influenza, received considerable attention at the Lexington meeting. As the winter season approaches the birds in many poultry flocks throughout the country begin to show signs of ordinary "colds" which, if not taken care of, may develop into serious troubles. For instance, infectious bronchitis may start that way, and this disease has caused rather heavy losses in recent years.

Mr. C.B. Hudson of the New Jersey Experiment Station reported the results of inoculating chicks with the virus of infectious bronchitis. In a series of six experiments 150 chicks were inoculated with infectious bronchitis virus and then held at ordinary room temperature. Another group of 148 chicks was similarly inoculated but held at a temperature considerably above

room temperature. The death rate in the groups held at room temperature was 60 per cent as compared to a mortality of 32.4 per cent in the groups held at the higher temperature.

Mr. A.R. Lee, our poultry friend in the United States Department of Agriculture says that infectious bronchitis is a serious disease. As a matter of fact, it is so serious that the national Congress has made a special appropriation to start a series of investigations to try to find out the cause, treatment and control of infectious bronchitis in poultry.

If you are interested in this subject I suggest that you ask for a copy of Farmers' Bulletin No. 1652-F, entitled "DISEASES AND PARASITES OF POULTRY."

Pullorum disease, or bacillary white diarrhea, commonly called B.W.D. came in for its full share of discussion at the Lexington meeting. This disease, as the majority of you poultry listeners know, causes heavy losses to the industry.

The University of Illinois reported the results of a number of experiments in the fumigation of incubators containing eggs and chicks, and the results while showing effective diseases control also showed that this work must be handled very carefully or disastrous results will occur.

Commenting on the reports of new progress in the diagnosis of B.W.D., Mr. Lee says that the United States Bureau of Animal Industry is now using a new and simpler method for testing adult birds for this disease.

An experienced tester, using this new method, could catch a chicken, make a pin prick, get a small drop of blood, mix it with a drop of diagnostic agent on a pane of glass, and complete the test in a very short time, The main feature of this new method is that an experienced tester can make the test and learn the results right on the grounds within a few minutes.

The men in the Department of Agriculture who developed this new method of testing for B.W.D think that it's reliable and that it promises to be of great value to the poultry industry, but they don't want to throw the old method overboard until they've tried the new one out on a large scale. To do this they've sent material for making more than 100,000 tests to investigators and field workers throughout the country. For additional information on B.W.D. write your state College or ask for a copy of Farmers' Bulletin 1652, which I mentioned a moment ago. It's called "DISEASES AND PARASITES OF POULTRY."

Now we pass to the subject of "LEG WEAKNESS", which brought out more papers at the Lexington meeting than any other one subject. The type of leg weakness, known as "hock disease," or "slipped tendons," is thought to be the result of improper feeding of chicks closely confined. I say THOUGHT because it is not definitely known just what really causes this type of leg weakness.

Leg weakness takes its greatest toll from young chicks kept confined in battery brooders and in brooder houses, but it's an ailment that occurs under varying conditions. Chick rations high in bone meal or phosphorus appear to aggravate this condition. In that connection Mr. J.E. Hunter of the Pennsylvania State College reported that oats or oat feeds possess bene-

ficial properties for the prevention of leg weakness.

Commenting on this leg weakness Mr. Lee says that the Department specialists have found that the use of 10 per cent of rice bran in the ration is helpful in preventing the disease, provided the lime content of the ration is increased and the bone meal content decreased until the calcium phosphorus ration stands at about two and a half to one.

This is the season when many chicks are goin into battery brooders to be fattened for the winter broiler trade. Mr Lee says that this type of weakness cannot be controlled by the use of cod-liver oil but that cod-liver oil must always be used to prevent rickets in growing chicks.

It won't be long until the 1932 hatching season will be on us. That means that poultrymen will soon be getting out their incubators and getting them ready for the first hatch.

It is estimated that 40 per cent of all the eggs set fail to hatch. That's a great loss and it's only natural that experiment stations should try to do something about it.

In that connection Minnesota reported the results of the study of the position of the embryo in the egg during the incubation period. This study showed that there were 5 positions of the embryo which almost invariably resulted in death. It is possible, therefore, that at least a part of the losses can be attributed to the wrong position of the embryos in the shell.

Commenting on that subject Mr. Lee says that breeding hens deprived ofdirect sunlight or fed on rations deficient in vitamin D nearly always produce quite a percentage of eggs that develop abnormal chicks. To remedy this situation he advises the use of both cod-liver oil and direct sunlight for all breeding flocks.

In that connection Mr. Lee says that green feeds are excellent sources of vitamins, but that it's not always possible to get green feeds during the winter months. Under such conditions satisfactory results can be obtained by feeding well-cured, leafy clover, alfalfa, or soybean hay.

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CLOSING ANNOUNCEMENT: Ladies and gentlemen, you have been listeningto Your Washington Farm Reporter summarize some of the high lights from reports of the 23rd annual meeting of the POULTRY SCIENCE ASSOCIATION, held this year at the University of Kentucky at Lexington.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service

YOUR FARM REPORTER AT WASHINGTON. Friday, October 30, 1931.

NOT FOR PUBLICATION.

Speaking Time: 10 minutes. All Regions.

WHY VENTILATE A DAIRY BARN?

OPENING ANNOUNCEMENT: "WHY SHOULD A DAIRY BARN BE VENTILATED?" That, ladies and gentlemen, is the timely question Your Washington Farm Reporter is going to try to answer today in his regular Farm Reporter program broadcast from Station_________in cooperation with the United States Department of Agriculture. All right, Mr. Reporter.

--ooOoo--

Well folks, according to the little red calendar that hangs over my desk this is the thirtieth of October. That means it won't be long until Old Man Winter will force down the temperature with his icy breath until it will be necessary to house dairy cattle in many sections of the country.

Housing dairy cattle presents a serious problem unless they are supplied with plenty of pure, fresh air. As a matter of fact, it is thought that some of our most troublesome dairy diseases often spread from infected to healthy animals when they are all housed together for long periods during the winter.

"WHY VENTILATE A DAIRY BARN?" That's the question I asked Mr. M.A.R.Kelley of the United States Bureau of Agricultural Engineering.

"Well," said Mr. Kelley, "there are at least 4 good reasons for ventilating a dairy barn.

1. To supply fresh air necessary for cow health without drafts.
2. To control the temperature in the barn.
3. To prevent dampness in moisture and feeds, and make spontaneous combustion and fires from that source less likely, and
4. To help in preventing and controlling diseases.

According to Mr. Kelley an average cow needs about 116 cubic feet of air per hour. Putting it another way the average cow breathes and uses about 200 pounds of air a day.

As long as a cow is out in the open she has no difficulty in securing all the fresh air she needs and wants, but when she is confined in a tight stable or a closely built barn, then the problem of adequate ventilation comes up.

In order to supply a cow with 200 pounds of fresh air a day while she is in a barn it has been found necessary to provide a ventilating system that will supply about 3,600 cubic feet of air per cow an hour.

Mr. Kelley says that it is thought that this amount of air circulating through the barn will safeguard the health of the animals and at the same time take care of building and feed dampness which is a serious problem in poorly ventilated barns.

I have already told you that a cow uses about 200 pounds of air in 24 hours. If she breathes in that much air, of course, she must give off something. In that connection Mr. Kelley says that the average cow exhales from 12 to 18 pounds of moisture and a slightly smaller amount of carbon dixoide every 24 hours. For the health of the cow it is necessary to get this carbon dioxide out of the barn, and replace it with fresh air containing plenty of oxygen. For the life of the barn, and the safety from spontaneous fires, it is almost as important that this animal dampness or moisture be removed. Ventilation, of course, solves these problems.

"What is the best system of ventilation?" I questioned.

"Now," said Mr. Kelley, "you have asked me a question that I don't want to answer because there is some difference of opinion at this point, and I believe that it would be wise for dairymen to consult their own State College of Agriculture which is in a better position to know the exact needs of its section."

Mr. Kelley did say that the old system of dairy barn ventilation took the air out from a point in the wall down near the floor, but that modern methods take the air from the ceiling through wood or metal pipes and discharge it at the top of the barn through one of a number of available discharge devices.

I asked Mr. Kelley what makes the air circulate through these ventilators, and how big they should be.

Here's his answer to the first question -- "what makes the air circulate?" Before I answer that question let me ask you one. Do you know why a chimney or smokestack draws?

Well, to begin with, the current of moving air at the top of the chimney draws the air up through and out of the chimney. As this used air is removed from the chimney the space is filled by fresh air which rushes in through doors, windows, or specially prepared air openings or inlets. The same principle applies to barn ventilation systems. Some dairy barns even have electric fans and artificial ventilation, but this is not practical for the farmer milking 10 cows.

Now for the next question, how big to make the ventilators.

You may have to do a little studying to answer this question. Temperature and wind movements differ in different parts of this big country

of ours. For example, the wind often blows hard and cold in the Corn Belt. At the same time the weather may be rainy and extremely damp in the South. Dairy barns in each section need ventilation, but, of course, in different quantities.

Mr. Kelley has written a Farmers' Bulletin No. 1393-F, entitled "PRINCIPLES OF DAIRY-BARN VENTILATION." This bulletin contains a map of the United States, showing the different temperatures, and wind movements, so that you can work out, with the cooperation of your State College, ventilating plans suitable for your needs. I'll mention this bulletin again at the end of the talk in case you missed it this time.

In the wild stage, cattle roamed the outdoors and enjoyed the free and open air. However, modern cows have been developed to a high point of milk production, and this development has made it necessary in many sections to provide some kind of housing. in keeping of course, with the climate and weather, and especially during the long, cold, winter months.

Take the South, for example. Ventilation is not a serious problem in the southern-most parts of the United States because cattle run outdoors a great deal of the time. However, even some of these southern-most sections have cold, blowing rains during the winter and that makes it necessary in many instances to provide good, dry, well-constructed and properly ventilated stalls or stables to keep the cows comfortable during these bad spells.

Naturally I can't tell you a great deal about dairy-barn ventilation in a 10-minute talk. The most I can do is to call your attention to the fact that this is the season when dairy cows start the winter stay in the barns. If your barn is provided with a good ventilation system, see that it works because as Mr. Kelley points out a dairy cow must not only be healthy but comfortable as well to keep up the production of profitable milk during the long, winter months.

The publication that I mentioned a moment ago is Farmers' Bulletin No.1393-F, entitled "PRINCIPLES OF DAIRY-BARN VENTILATION." This bulletin was written by Mr. Kelley and contains 22 pages of information on the subject of ventilating dairy barns.

You may have a copy of this publication free as long as the supply lasts by directing your request to the United States Department of Agriculture in Washington, D.C.

CLOSING ANNOUNCEMENT: Ladies and gentlemen, you have been listening to Your Washington Farm Reporter in one of his regular Farm Reporter broadcasts from Station_____. For a free copy of Farmers' Bulletin No. 1393-F, entitled "PRINCIPLES OF DAIRY-BARN VENTILATION," write either this station or the Department of Agriculture in Washington, D.C.